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U. S. DEPARTMENT OF AGRICULTURE,

BUREAU OF ANIMAL INDUSTRY.—CIRCULAR 133.

A. D. MELVIN, CHIEF OF BUREAU.

REPORT AND RECOMMENDATIONS REGARDING VETERINARY COLLEGES IN THE UNITED STATES.

WASHINGTON, D. C., May 28, 1908.

The honorable the SECRETARY OF AGRICULTURE.

SIR: The committee appointed by you for the purpose of obtaining information regarding the course of instruction which is now being given at the various veterinary colleges throughout the United States has the honor to submit herewith its report. Recommendations are also made as to the matriculation examination and course of instruction necessary to qualify graduates for admission to the civil-service examination for the position of veterinary inspector in the Bureau of Animal Industry.

RICHARD P. LYMAN, *Chairman,*
Secretary of the American Veterinary Medical Association.

JOSEPH HUGHES,
President of the Chicago Veterinary College.

TAIT BUTLER,
*Secretary of the Association of Veterinary Faculties and
Examining Boards of North America.*

PAUL FISCHER,
State Veterinarian of Ohio.
A. M. FARRINGTON, *Secretary,*
Assistant Chief, Bureau of Animal Industry.

OBJECTS OF INVESTIGATION AND REPORT.

Inasmuch as over 800 veterinarians are employed by the Department of Agriculture in the various kinds of work conducted by the Bureau of Animal Industry, it is of the utmost importance that these men be well equipped by thorough education to fill such positions of responsibility. Although it is understood that applicants for these places must not only pass a civil-service examination but be graduates of veterinary colleges having a course of three years, observation has shown that the standard of attainment in the various veterinary colleges is not uniform, and that veterinary graduates are not in all

cases properly qualified for the positions they are expected to fill. It was therefore deemed advisable to seek to improve, if possible, the course of instruction given at these colleges, and, at the suggestion of Dr. A. D. Melvin, Chief of the Bureau of Animal Industry, the Secretary of Agriculture appointed a committee of five reputable veterinarians to visit the veterinary colleges throughout the United States in order to gain definite information regarding their equipment and facilities for teaching, and also to indicate to the Department the necessary matriculation examination and course of instruction to qualify graduates for admission to the civil-service examination.

ORGANIZATION AND PROCEDURE OF THE COMMITTEE.

In accordance with these instructions the above-mentioned Committee on Veterinary Education, composed of Dr. Richard P. Lyman, secretary of the American Veterinary Medical Association; Dr. Joseph Hughes, president of the Chicago Veterinary College; Dr. Tait Butler, secretary of the Association of Veterinary Faculties and Examining Boards of North America; Dr. Paul Fischer, State veterinarian of Ohio, and Dr. A. M. Farrington, Assistant Chief of the Bureau of Animal Industry, assembled at the Palmer House, Chicago, Ill., on February 27, 1908, and organized with the selection of Doctor Lyman as chairman and Doctor Farrington secretary. The first business receiving attention was to formulate a definite plan whereby the desired information regarding each college might be obtained. The committee decided upon the method of procedure outlined under the eleven heads following:

1. Secure all published information; (a) catalogues, (b) advertising, (c) blank forms or other printed matter used in instruction or other college work.
2. Name of veterinary institution; (a) charter.
3. Location; street; place or places where instruction is given.
4. Date of organization; history.
5. Requirements for entrance:
 - (a) Standard of matriculation.
 - (b) Dates of holding matriculation examinations.
 - (c) Latest dates students are admitted after opening of regular session.
 - (d) Basis on which students are admitted from other schools:
 1. Veterinary.
 2. Medical.
 3. Dental.
 4. Pharmaceutical.
 5. Agricultural.
 - (e) Number of students now in attendance from such schools.
 - (f) Name of schools or colleges from which admitted.
 - (g) Total enrollment by classes.
6. Teachers and lecturers; their history, and the subjects they teach.

7. Curriculum :

- (a) Obtain a list of subjects embraced in curriculum.
- (b) Number of hours devoted to each subject, and how taught.
- (c) Laboratory.
- (d) Clinics.
- (e) Lectures.
- (f) Recitations.

8. Length of course :

- (a) In years.
- (b) Time each year.
- (c) Amount of teaching during day and during evening.
- (d) As to grading of course.
- (e) Length of sessions for each class.
- (f) Number of days teaching each week.
- (g) Number of teaching hours each day.
- (h) Frequency of roll call.
- (i) Length of vacation and number of holidays during the year.

9. Examinations and graduation :

- (a) Frequency of examinations.
- (b) Basis on which diploma is given.
- (c) Manner of conducting final examinations—
 - 1. Oral.
 - 2. Written.
 - 3. Practical.
- (d) Percentage of senior students failing to pass final examinations.

10. Diplomas and certificates :

- (a) Kinds of degrees, certificates, or diplomas issued.
- (b) As to a post-graduate or other kind of special course.
- (c) Dates on which diplomas are issued.

11. Sources of revenue :

- (a) Fees from students for each course of study.
- (b) Endowment.
- (c) Annual appropriations.

In addition to the above the following list of questions was formulated to be left with the dean of each college, and later to be filled out and forwarded to the committee :

1. Give a list of the subjects embraced in the curriculum of your college.
2. Give the number of hours spent in lectures by the freshmen, juniors, and seniors on each subject in each class during each session.
3. Give the number of laboratory hours spent by the freshmen, juniors, and seniors on each subject in each class during each session.
4. Give the number of clinical hours given to the freshmen, juniors, and seniors in each subject in each class during each session.
5. Give the names of veterinary, medical, dental, pharmaceutical, and agricultural graduates or students who have been admitted to your college during the past session from other colleges and who have been given credit or allowance at your school; also give the names of colleges from which they have been admitted and the amount of credit which they have been given; also state at what period of the session they have been received into your college.
6. Give list of students who left your college last session, 1906-7, without completing the course or without credentials; also give a list of the students

who have left your college this session, 1907-8, without completing the course and without credentials.

7. Give a full list of the students enrolled in the (1) freshman, (2) junior, and (3) senior classes during the present collegiate year.

COLLEGES VISITED.

An itinerary for visiting the various colleges was next arranged and carried out as follows:

The committee began its investigation with the McKillip Veterinary College, 1639 Wabash avenue, Chicago, Ill., on February 28, 1908, and the Chicago Veterinary College, 2537 State street, in the same city, on February 29, 1908. Visits to colleges in other cities were then made in the following order: Grand Rapids Veterinary College, Grand Rapids, Mich., March 2, 1908; Cincinnati Veterinary College, Cincinnati, Ohio, March 3, 1908; Ohio State University, College of Veterinary Medicine, Columbus, Ohio, March 4, 1908; Indiana Veterinary College, Indianapolis, Ind., March 5, 1908; St. Joseph Veterinary College, St. Joseph, Mo., March 7, 1908; Western Veterinary College, Kansas City, Mo., March 9, 1908; Kansas City Veterinary College, Kansas City, Mo., March 10, 1908.

At this time one member of the committee returned home, the others proceeding to the Kansas State Agricultural College, Veterinary Department, Manhattan, Kans., reaching that college on March 11, 1908. At this place another member of the committee returned to his home, leaving the remaining three members to visit the Colorado State Agricultural College, Veterinary Department, Fort Collins, Colo., March 13, 1908; the San Francisco Veterinary College, San Francisco, Cal., March 17, 1908; the State College of Washington, Veterinary Department, Pullman, Wash., March 21, 1908; and the Iowa State College, Veterinary Department, Ames, Iowa, March 25, 1908.

The subcommittee of three members designated to visit the eastern veterinary colleges convened in New York on April 11, 1908, visiting the New York-American Veterinary College, New York, N. Y., on that day. Following this the New York State Veterinary College, Ithaca, N. Y., was visited on April 13, 1908; the Ontario Veterinary College, Toronto, Canada, April 15, 1908; the University of Pennsylvania, Veterinary Department, Philadelphia, Pa., April 17, 1908; and the United States College of Veterinary Surgeons, Washington, D. C., April 21, 1908.

A report embodying the information obtained from each college as to the manner in which it is conducted is filed as an appendix.^a This is arranged in a series of exhibits, one for each college, in which

^a Not printed.

are set forth the criticisms of the committee upon the conditions found. It is suggested that these findings be sent to the colleges named, in order that they may conform to the recommendations made by this committee.

The entire committee reconvened at the Department of Agriculture, Washington, D. C., April 20, 1908, and concluded its duties by submitting the recommendations next following, in which is specified the minimum course of instruction which it considers necessary that veterinary graduates eligible for the position of veterinary inspector in the Government service should receive; also recommendations regarding methods of teaching, etc.

RECOMMENDATIONS.

ENTRANCE EXAMINATION.

RECOMMENDATION No. 1. *Matriculation.*—That a matriculation examination be adopted, the minimum requirements of which shall be equivalent to the second-grade examination as published in the United States Civil Service Manual of Examinations, supplemented by United States history and geography of the United States and its possessions. Such an examination will therefore include:

1. Spelling.
2. Arithmetic.
3. Letter writing.
4. Penmanship.
5. Copying from plain copy.
6. United States history.
7. Geography of the United States and its possessions.

RECOMMENDATION No. 2. *Dates of holding matriculation examinations.*—That the entrance examination shall be conducted on one or more specifically advertised dates under the supervision of the dean, director, or, in case of State institutions, by the official examining board. That the last entrance examination shall be held not later than fifteen days subsequent to the advertised annual opening of the college year, and no time credit shall be allowed to students admitted after that date.

RECOMMENDATION No. 3. *Filing of matriculation examination papers.*—That the questions and answers of both successful and unsuccessful applicants shall be kept on file by the institution for at least five years subsequent to the examination of the applicants.

RECOMMENDATION No. 4. *Grading of matriculation examination papers.*—That applicants shall be graded upon a basis of 100 per cent, and that a grade of not less than 70 per cent shall qualify for admission.

COURSE OF STUDY.

RECOMMENDATION No. 5. *Subjects constituting course of instruction.*—That the appended list of subjects constitute the course of instruction recommended as a minimum for veterinary colleges. Those numerically indicated shall be known as the major subjects, and those designated by letters shall be under the control of the professors in charge of the respective major subjects with which they are grouped.

1. Anatomy :

- (a) Histology (veterinary).
- (b) Zoology (veterinary).
- (c) Embryology.

2. Physiology :

- (a) Principles of nutrition.
- (b) Hygiene.
- (c) Animal locomotion.

3. Zootechnics :

- (a) Breeds and breeding.
- (b) Judging.
- (c) Feeds and feeding.
- (d) Dairy inspection.
- (e) Jurisprudence.

4. Chemistry :

- (a) Elementary physics.
- (b) Physiological chemistry—analysis of milk, urine, etc.

5. Materia medica :

- (a) Botany (medical).
- (b) Pharmacology.
- (c) Toxicology.

6. Pathology :

- (a) Bacteriology.
- (b) Parasitology.
- (c) Post-mortem examination.
- (d) Meat inspection.
- (e) Laboratory diagnosis.

7. Practice of comparative medicine :

- (a) Diagnostic methods and clinics.
- (b) Therapeutics.
- (c) Control of infective diseases.

8. Surgery :

- (a) Surgical diagnosis and clinics.
- (b) Surgical restraint.
- (c) Soundness.
- (d) Lameness.
- (e) Shoeing and balancing.
- (f) Dentistry.
- (g) Obstetrics.

RECOMMENDATION No. 6. *Length of course.*—That the course of instruction shall cover a period of three years of not less than six

months in each year, exclusive of final examinations and holidays; and that this course of instruction shall have as a minimum 150 days in each year of actual teaching and a minimum of 3,200 actual teaching hours for the entire three years.

RECOMMENDATION No. 7. *Minimum number of hours in course:*

Anatomy, major subject :

Lectures	200
Laboratory	300
Total	500

Histology :

Lectures	40
Laboratory	100
Total	140

Embryology :

Lectures	10
Laboratory	20
Total	30

Zoology —

Lectures	20
Laboratory	20
Total	40

Total for subject	710
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Physiology, major subject :

Lectures	80
Laboratory	20
Total	100

Principles of nutrition

Hygiene	10
Animal locomotion	5
Total	25

Total for subject	125
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Zootechnics, major subject :

Breeds and breeding	30
Judging	30
Feeds and feeding	30
Dairy inspection	10
Jurisprudence	10

Total for subject	110
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Chemistry, major subject :

Lectures	50
Laboratory	150
Total	200

Physics (elementary)	20
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Chemistry, major subject—Continued.

Physiological chemistry—	
Urine analysis	10
Milk analysis	10
Total	20
Total for subject	240

Materia Medica, major subject:

Lectures—	70
Pharmacology, lectures and laboratory	50
Botany	30
Toxicology	10
Total for subject	160

Pathology, major subject:

Lectures	40
Laboratory	100
Total	140
Bacteriology—	
Lectures	20
Laboratory	90
Total	110

Parasitology—	
Lectures	50
Laboratory	10
Total	60
Post-mortem examination	10
Meat inspection	50
Laboratory diagnosis	50
Total for subject	420

Practice of Comparative Medicine, major subject:

Lectures	250
Diagnostic methods and clinics	400
Therapeutics	100
Control of infective diseases	25
Total for subject	775

Surgery, major subject:

Lectures	100
Surgical exercises	80
Total	180
Surgical diagnosis and clinics	300
Surgical restraint	30
Soundness	20
Lameness	50
Shoeing and balancing	10
Dentistry (lectures)	20
Obstetrics	50
Total for subject	660

Recapitulation.

Total hours for Anatomy group-----	710
Total hours for Physiology group-----	125
Total hours for Zootechnics-----	110
Total hours for Chemistry group-----	240
Total hours for Materia Medica group-----	160
Total hours for Pathology group-----	420
Total hours for Practice of Comparative Medicine group-----	775
Total hours for Surgery group-----	660
Total hours, three-year course-----	3,200

RECOMMENDATION No. 8. *Grading of course.*—That the course shall be graded in such manner as to avoid unnecessary repetition of lectures or instruction to the same student. For example, a student, while freshman, should be required to complete a definitely outlined course in such subjects as anatomy, histology, chemistry, etc. When advanced to the junior class he should either drop the studies of his freshman year and take up new work, or he may continue the same subject; for example, anatomy, along advanced lines of instruction.

RECOMMENDATION No. 9. *Night classes.*—That the practice of certain veterinary colleges in conducting regularly scheduled classes of instruction at night for all or a part of their students, to the exclusion of or in lieu of work which could be better done during the day, is inimical to the best educational work, and therefore should be discontinued.

FACULTY.

RECOMMENDATION No. 10. *Number of veterinarians.*—That there shall be at least five qualified veterinarians on the faculty of every veterinary college, each of whom shall have had not less than three years' experience in teaching or in practicing veterinary science subsequent to graduation from a veterinary college.

RECOMMENDATION No. 11. *Qualification of teaching veterinarians.*—That not more than three of the five veterinarians on each college faculty shall be graduates of any one veterinary college.

RECOMMENDATION No. 12. *Subjects taught by veterinarians.*—That five veterinarians on the faculty of each veterinary college shall have charge of and teach the following major subjects: 1, Anatomy; 2, Pathology; 3, Practice of Comparative Medicine; 4, Surgery; and 5, Materia Medica or Physiology, as the respective colleges may elect.

GENERAL RECOMMENDATIONS.

RECOMMENDATION No. 13. *Classification of veterinary colleges.*—That the following classification of veterinary colleges be adopted:

Class A:^a

- Chicago Veterinary College.
- Indiana Veterinary College.
- Iowa State College, Veterinary Department.
- Kansas City Veterinary College.
- Kansas State Agricultural College, Veterinary Department.
- New York-American Veterinary College.
- New York State Veterinary College.
- Ohio State University, College of Veterinary Medicine.
- San Francisco Veterinary College.
- State College of Washington, Veterinary Department.
- University of Pennsylvania, Veterinary Department.

Class B:^b

- Cincinnati Veterinary College.
- Grand Rapids Veterinary College.
- McKillip Veterinary College.
- United States College of Veterinary Surgeons.

Class C:^c

- Colorado State College of Agriculture and the Mechanic Arts, Veterinary Department.
- Ontario Veterinary College.
- St. Joseph Veterinary College.
- Western Veterinary College.

RECOMMENDATION No. 14. *Evidence of attendance.*—That at the end of the college year each student is entitled to and shall receive a written statement giving the length of time spent in each study during the session, and the grade received therein. This statement, or definite evidence of credit, shall be exacted from a student before he is given advanced standing in any veterinary college.

RECOMMENDATION No. 15. *Transfer of students.*—That a student transferring from one veterinary college in Class A to another in

^a Colleges whose graduates are recommended in this report as eligible to United States civil-service examination for veterinary inspectors in the Bureau of Animal Industry.

^b Colleges whose graduates have been allowed to take the United States civil-service examination subsequent to 1898, but are not recommended in this report.

^c Colleges having no graduates or whose recent graduates are not eligible to the United States civil-service examination, and are not recommended in this report.

Class A shall be given credit only for such time and courses (lectures and laboratory) as he has successfully completed in the institution previously attended. That no college in Class A shall give credit to any student for any work done at colleges in Classes B and C.

RECOMMENDATION No. 16. *Supervision of veterinary colleges.*—That the Department of Agriculture maintain such constant supervision of the work of the veterinary colleges as shall enable it to secure the requisite information to determine whether said colleges are faithfully complying with the minimum standard of requirements indicated in this report.

RECOMMENDATION No. 17. *To secure recognition.*—That those colleges not now included in Class A shall be put in that class at such time as they shall submit sufficient evidence to convince the Department of Agriculture that they are fully and faithfully complying with the minimum standard of requirements indicated in this report.

RECOMMENDATION No. 18. *Certificate of matriculation examination.*—That any person applying for admittance to the freshman class or for advanced standing must present before being enrolled a certificate showing that he has passed the matriculation examination recommended in this report, and in no case shall he be admitted without such certificate.

RECOMMENDATION No. 19. *Applicants from colleges not veterinary.*—That an applicant who has successfully completed at least two years' work in a reputable college of human medicine, dentistry, pharmacy, or agriculture, and who brings an official and explicit certificate describing his course of study and scholarship, and also a certificate of honorable dismissal, shall not be admitted to advanced classes or standing in veterinary colleges, but may be given credit for such subjects as have been successfully completed in such colleges if, in the subjects for which credit is sought, said colleges maintain a standard of instruction similar and equal to the minimum standard of requirements recommended in this report.

RECOMMENDATION No. 20. *Agricultural college graduates.*—That a graduate of the regular four-year agricultural course in an agricultural college having upon its faculty a qualified veterinarian giving a regular course of instruction in veterinary science may be given a time credit of one year, but shall be given credit only for such subjects as he has successfully completed, providing the course of instruction in said agricultural college, in the subjects for which credit is sought, is similar and equal to the minimum standard of requirements in the course indicated in this report.

RECOMMENDATION No. 21. *One graduation period only.*—That no veterinary college shall have more than one graduation period yearly, nor shall diplomas be issued except at the close of the regular college year.

RECOMMENDATION No. 22. *Requirements for graduation.*—1. That a candidate for graduation shall have attained the age of 21 years and attended three full college years in a veterinary college in Class A (except as otherwise provided in Recommendations Nos. 20 and 25); the last year of attendance must have been at the college to which he applies for graduation.

2. He must have successfully completed the course of study and passed all the final examinations in the subjects indicated in this report.

3. If he fails to pass satisfactorily in subjects representing in time 25 per cent or more of his senior year, these subjects must again be taken in full with a succeeding class before he can graduate.

RECOMMENDATION No. 23. *Information for Department of Agriculture.*—1. That all veterinary colleges shall promptly furnish to the Department of Agriculture a copy of their annual announcements and of all other publications relative to the courses of instruction offered.

2. They shall also furnish, not later than thirty days after the opening of the first session of each college year, a complete list of their matriculates by classes, and within ten days after the close of the college year furnish a complete list of the last graduating class.

UNITED STATES CIVIL-SERVICE EXAMINATION FOR VETERINARY INSPECTOR.

RECOMMENDATION No. 24. *Eligibility for United States civil-service examination.*—That graduates of the veterinary colleges in Class A be at all times eligible for the United States civil-service examination for employment as veterinary inspectors in the Bureau of Animal Industry.

RECOMMENDATION No. 25. *Eligibility of graduates of Class B colleges.*—That any person now (June 1, 1908) a matriculate of a veterinary college in Class B shall be eligible to the civil-service examination for veterinary inspector in the Department of Agriculture after having completed a full course of study of three years and graduated from any veterinary college in Class B.

RECOMMENDATION No. 26. *Not eligible to civil service.*—That hereafter no undergraduate or other person who has not received a diploma from a veterinary college shall be permitted to take the civil-service examination for the position of veterinary inspector.

DATE WHEN RECOMMENDATIONS TAKE EFFECT.

RECOMMENDATION No. 27. *Date to take effect.*—That, except as otherwise provided for, the recommendations in this report shall become operative for each institution not later than the close of its college year 1908–9.

Approved:

JAMES WILSON,
Secretary of Agriculture.

WASHINGTON, D. C., *June 8, 1908.*

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